WATER SUPPLY OUTLOOK

KOOTENAI RIVER BASIN

MONTANA

as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

Snow cover in the Kootenai drainage is near average for May 1 and about 8 percent less than a year ago.

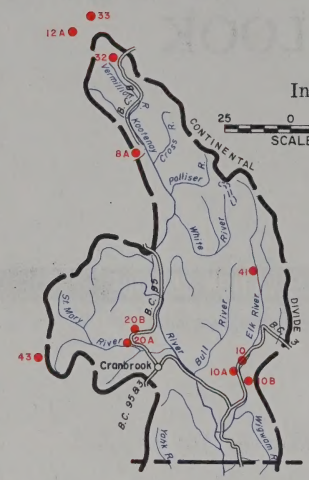
Runoff during April was about 7 to 8 percent above average with streamflow increasing during the latter part of April.

Runoff through September is forecast to be slightly above average for the Kootenai and Montana tributaries.

High elevation snow is dense; low elevation snow is melting. Runoff is not expected to cause much damage this spring unless warm, heavy rains occur during the major snow melt period.

Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

KOOTENAI RIVER BASIN



LEGEND

- Snow Survey Course
- Soil Moisture Station
- Snow Course and Soil Moisture Station
- Aerial Marker at Snow Course
- Stream Gaging Station
- Drainage
- S.W.C.D. Boundary
- Watershed Boundary
- Highway
- Town
- County Boundary
- State Boundary

See Insert

C A N A D A

I D A H O

L I N C O L N

F L A T H E A D

L I N C O L N S.W.C.D.

15A01
14A07
14A11
14A04
15A02
15B11
15B15
3050
3045
3030
3020

Rexford
Eureka
Yaak
Troy
Libby
Warland
Happy Inn

Yaak River
Tobacco River
MONT. 37
RIVER
KOOTENAI
Fisher
Wolf Creek
Libby Creek
U.S. 93
U.S. 2
U.S. 93

N

10 0 10
SCALE IN MILES

WATERSHED LOCATION

SNOW SURVEY DATA

WATERSHED I

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
15B11	Baree Creek	5500	4/29	88	45.2	58.8	49.1
15B15	Baree Trail	3800	4/29	0	0.0	-	-
14A04	Brush Creek	5000	4/28	26	10.2	12.4	10.7*
BC 10	Fernie	3500	4/29	7	3.1	3.8	2.8
BC 12A	Field	4200	4/30	0	0.0	0.0	0.6*
BC 11	Glacier	4100	4/30	45	22.6	27.8	25.9
14A11	Graves Creek	4300	4/30	40	16.9	-	-
BC 43	Gray Creek	5100	4/27	53	21.9	23.0	20.2
BC 33	Kicking Horse	5400	4/30	38	14.6	12.1	12.2
BC 20B	Kimberley	3800	4/30	0	0.0	0.3	1.2*
BC 32	Marble Canyon	5000	4/29	31	11.2	10.2	13.4
BC 10B	Morrissey Ridge	6100	4/30	68	28.0	-	-
BC 10A	New Fernie	4100	4/29	19	9.3	11.2	6.0*
15A01	Red Mountain	6000	4/29	52	21.9	16.6	20.9
BC 8A	Sinclair Pass	4500	4/29	0	0.0	1.7	2.2*
BC 20A	Sullivan Mine	5100	4/30	25	11.0	11.5	12.5
BC 41	Upper Elk River	4400	4/26	8	3.0	3.2	2.5*
14A07	Weasel Divide	5450	4/30	80	38.2	37.8	35.7*

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
15B15M	Baree Trail	3800	48	7.5	4/30	6.7	-	-
14A10M	Murphy Lake R. S.	3000	48	22.6	5/3	23.0	-	-
15A02M	Raven R. S.	3050	48	23.0	4/29	22.0	-	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED I

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	FISHER RIVER					
3020	Jennings (near)	May-Sept	229	102	223	223
	KOOTENAI RIVER					
3030	Libby (at)	May-Sept	7,580	102	7,447	7,428
3050	Leonia (at)	May-Sept	8,600	102	8,424	8,416

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK

FLATHEAD RIVER BASIN
MONTANA

as of
MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE
Data included in this report were obtained in cooperation with other Federal, State and private organizations

Water in the mountain snow pack averages about the same as a year ago and is 17 percent greater than the 1948-62 average. Generally, the lower elevation snow is less than a year ago. The high elevation snow is very dense for this time of year. On many high elevation snow courses, two inches of snow contains nearly one inch of water.

Streamflow during April was 15 to 25 percent above average. Runoff for the next five months is forecast to average 15 to 25 percent above average.

Peak flows are not expected to be high enough to cause much damage unless warm, heavy rains occur during the peak of the snow melt period.

Hungry Horse Reservoir has been drawn down below last year's level which will help reduce peak flows in the Flathead River below the South Fork.

Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

"The Conservation of Water begins with the Snow Survey"

FLATHEAD LAKE RIVER BASIN

SNOW SURVEY DATA

WATERSHED II

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13A15	Badger Pass	6900	5/3	106	50.0	46.4	-
14B03	Bassoo Peak	5150	4/27	19	7.4	8.9	9.7*
13A11	Beaver Lake	5900	5/3	68	32.1	30.9	-
13B03	Big Creek	6750	4/29	119	59.8	51.6	50.5*
14A04	Brush Creek	5000	4/28	26	10.2	12.4	10.7*
13A17	Camp Misery	6400	4/28	138	65.8	57.0	-
13B10	Coyote Hill	4200	4/30	11	5.0	5.2	2.3
13A02	Desert Mountain	5600	4/27	43	20.6	16.5	14.6
13B04	Fatty Creek	5500	4/29	56	26.1	28.0	-
BC 10	Fernie	3500	4/29	7	3.1	3.8	2.8
14A11	Graves Creek	4300	4/30	40	16.9	-	-
14A09	Griffin Creek Divide	5150	4/28	18	7.5	9.6	9.8*
13B12	Gunsight Lake	6300	5/3	111	50.4	50.9	-
14A03	Hell Roaring Divide	5770	4/30	77	37.5	38.8	31.5
13B13	Holbrook	4530	5/3	0	0.0	5.0	1.4*
14A05	Logan Creek	4300	4/28	4	1.6	4.4	3.4*
13A05	Marias Pass	5250	4/27	65	28.0	16.6	18.0
13A16	Mineral Creek	4000	5/1	39	16.7	21.0	-
BC 10B	Morrissey Ridge	6100	4/30	68	28.0	-	-
BC 10A	New Fernie	4100	4/29	19	9.3	11.2	6.0*
13B07	North Fork Jocko	6330	4/30	112	55.0	58.1	48.0*
13B02	Spotted Bear Mountain	7000	5/3	31	14.6	16.5	12.4*
13A10	Strawberry Lake	5600	5/3	103	53.4	53.6	42.5*
13C01	Stuart Mountain	7400	5/2	86	38.4	36.2	30.4*
13B01	Trinkus Lake	6500	5/3	104	54.4	55.2	45.4*
14B01	TV Mountain	6800	5/1	53	23.2	22.6	20.3*
13B11	Twin Creeks	3580	5/3	0	0.0	9.8	1.4*
13B05	Upper Holland Lake	7000	5/3	90	45.5	46.8	39.0*
14A07	Weasel Divide	5450	4/30	80	38.2	37.8	35.7*

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A02M	Desert Mountain	5600	54	8.4	4/27	9.6	6.8	8.2
13A05M	Marias Pass	5250	54	6.5	4/30	6.4	5.4	6.0
13B19M	Seeley Lake	4030	48	11.9	5/3	12.0	11.9	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED II

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	NORTH FORK FLATHEAD RIVER					
3555	Columbia Falls (near)	May-Sept	2,100	115	2,152	1,833
	MIDDLE FORK FLATHEAD RIVER					
3585	West Glacier (near)	May-Sept	2,050	118	2,363	1,736
	SOUTH FORK FLATHEAD RIVER					
3625	Columbia Falls (near)(17)	May-Sept	2,630	125	2,467	2,103
	FLATHEAD RIVER					
3630	Columbia Falls (at)(17)	May-Sept	6,900	118	7,108	5,820
3720	Polson (near)(18)	May-Sept	8,150	118	8,320	6,914
	SWAN RIVER					
3700	Big Fork (near)	May-Sept	720	120	658	599

(17) Adjusted for storage in Hungry Horse Reservoir.
(18) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3620	Hungry Horse	3,428.0	1,564.0	2,003.0	2,097.0
3710	Flathead Lake	1,791.0	1,132.0	770.7	968.0
3757	Camas (4)	45.2	29.7	22.3	38.1
3800	Mission Valley (8)	100.3	51.0	26.5	45.1

WATER SUPPLY OUTLOOK

LOWER CLARK FORK RIVER BASIN

MONTANA

as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

Water in the mountain snow averages about 10 percent less than it did near May 1 a year ago and is about 10 percent above the 1948-62 average. Low elevation snow melt is progressing and some high elevation snow courses indicate slight melt during the latter part of April. Snow at most high elevation courses is very dense for this time of year. Each two to two and one-half inches of snow contains one inch of water.

Runoff during April was about 40 to 60 percent above average with the higher percentages in the upstream portion of the drainage.

Streamflow for the next five months is forecast to be about 20 to 30 percent above average. Runoff is not expected to cause much damage this spring unless warm, heavy rains occur during the major snow melt period.

Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

"The Conservation of Water begins with the Snow Survey"

LOWER CLARK FORK RIVER BASIN

LEGEND

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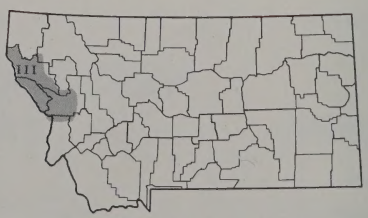

WATERSHED LOCATION

SNOW SURVEY DATA

WATERSHED III

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13C16	Ambrose	6480	4/28	38	15.4	16.5	11.0*
15B11	Baree Creek	5500	4/29	88	45.2	58.8	49.1
15B15	Baree Trail	3800	4/29	0	0.0	-	-
14B03	Bassoo Peak	5150	4/27	19	7.4	8.9	9.7*
13B10	Coyote Hill	4200	4/30	11	5.0	5.2	2.3
14C10	Heart Lake Trail	4800	4/29	38	16.6	-	-
15C01	Hoodoo Creek	6200	4/29	114	56.6	55.2	50.2*
14C05	Lolo Pass	5230	4/27	74	34.8	40.8	31.8*
15B02	Lookout	5250	4/27	82	36.6	44.3	36.4
13C21	Lubrecht Forest No. 3	5450	5/2	10	3.4	7.9	3.6*
13C22	Lubrecht Forest No. 4	4650	5/2	0	0.0	1.2	0.6*
13C08	Lubrecht Forest No. 6	4040	5/2	0	0.0	0.0	0.1*
13B07	North Fork Jocko	6330	4/30	112	55.0	58.1	48.0*
13C02	Slide Rock Mountain	7100	4/28	50	22.3	-	-
13C18	Spring Gulch	6000	5/2	7	3.0	11.0	3.1*
13C01	Stuart Mountain	7400	5/2	86	38.4	36.2	30.4*
14B01	TV Mountain	6800	5/1	53	23.2	22.6	20.3*

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
15B15M	Baree Trail	3800	48	7.5	4/30	6.7	-	-
14C05M	Lolo Pass	5250	48	10.6	4/27	9.4	5.5	-
13B19M	Seeley Lake	4030	48	11.9	5/3	12.0	11.9	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED III

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	BLACKFOOT RIVER					
3400	Bonner (near)	May-Sept	1,190	130	1,043	914
	BITTERROOT RIVER					
3528	Missoula (at)(16)	May-Sept	1,765	128	1,655	1,384
	CLARK FORK RIVER					
3404	Milltown (above)(14)	May-Sept	900	131	917	686
3405	Missoula (above)	May-Sept	2,090	131	1,960	1,600
3530	Missoula (below)	May-Sept	3,855	129	3,615	2,984
3545	St. Regis (at)	May-Sept	5,060	125	4,717	4,036
3890	Plains (near)(18)	May-Sept	13,560	120	13,180	11,286
3920	Whitehorse Rapids (at)(19)	May-Sept	15,100	120	14,530	12,580

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot near Bonner.
(16) Difference in observed flow, Clark Fork above and below Missoula.
(18) Adjusted for storage in Flathead Lake and Hungry Horse Reservoir.
(19) Adjusted for storage in Flathead Lake, Hungry Horse and Noxon Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3913	Noxon Rapids	334.6		101.1	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK

UPPER CLARK FORK RIVER BASIN
MONTANA

as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

The outlook for irrigation water supplies this spring and summer continues to be excellent. Streamflow is expected to be sufficient throughout the summer months. The water in the mountain snow pack averages about 10 percent more than a year ago and is 38 percent above average. High elevation snow continues to hold record or near record high water and is very dense for this time of year. At the higher elevations each 2½ inches of snow contains about one inch of water.

Runoff during April was about 50 to 60 percent above average. Streamflow for the next five months is forecast to be 25 to 30 percent above average and generally about the same or a little greater than last year.

Streamflow is not expected to cause much damage this spring unless warm, heavy rains occur during the major snow melt period.

Report prepared by
P.E. FARNES AND S.E. COOK
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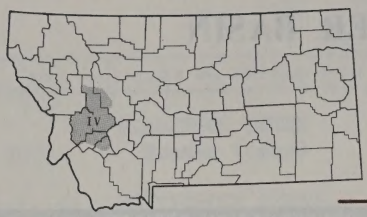
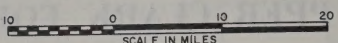
BOX 855, BOZEMAN, MONTANA 59715

"The Conservation of Water begins with the Snow Survey"

UPPER CLARK FORK RIVER BASIN



WATERSHED LOCATION



N

LEWIS & CLARK S.W.C.D.

LEWIS & CLARK

MISSOULA S.W.C.D.

MISSOULA

NORTH POWELL S.W.C.D.

POWELL

DEER LODGE VALLEY S.W.C.D.

DEER LODGE

GRANITE

GRANITE S.W.C.D.

RAVALLI

MILE HIGH S.W.C.D.

JEFFERSON

SILVER BOW

Ovando
Lincoln
Bonita
Bearmouth
Drummond
Hall
Gold Creek
Garrison
Avon
Elliston
Deer Lodge
Maxville
Phillipsburg
Warmsprings
Anaconda
Butte

MONT. 20
U.S. 10 & 12
U.S. 10A
MONT. 38
U.S. 91
U.S. 10

Blackfoot River
Nevada Creek
Little Blackfoot River
Clark Fork
Flint Creek
Rock Creek
NEVADA CREEK RES.

3385
3404
3301
3300
3295
3250
3320
3355

12B11
12B10
13C14
13C08
13C22
13C21
13C08
12C01
13C02
13C16
13C10
13C09
13C13
12C02
12C03
12C04
12C05
13C03
13C11
13C12
13C04
13C15
13C05
13C06
13C07
12D01

LEGEND

- Snow Survey Course
- Soil Moisture Station
- Snow Course and Soil Moisture Station
- Aerial Marker at Snow Course
- Stream Gaging Station
- Drainage
- S.W.C.D. Boundary
- Watershed Boundary
- Highway
- Town
- County Boundary
- State Boundary

SNOW SURVEY DATA

WATERSHED IV

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13C16	Ambrose	6480	4/28	38	15.4	16.5	11.0*
13C13	Black Pine	7100	4/27	48	20.2	17.8	11.8*
12C05	Chessman Reservoir	6200	4/28	8	2.2	7.4	2.9
12B10	Copper Creek	5700	4/26	35	15.6	14.6	-
12B11	Cotter Mine	6250	4/26	53	22.8	18.5	-
13C11	Fred Burr Pass	8000	4/29	91	41.3	30.6	32.5*
13C04	Intergaard	6450	4/29	24	8.4	9.0	-
13C21	Lubrecht Forest No. 3	5450	5/2	10	3.4	7.9	3.6*
13C22	Lubrecht Forest No. 4	4650	5/2	0	0.0	1.2	0.6*
13C08	Lubrecht Forest No. 6	4040	5/2	0	0.0	0.0	0.1*
12D01	Pipestone Pass	7200	4/30	14	4.9	6.7	4.4*
13C12	Red Lion	7100	4/29	61	26.2	18.2	19.6*
13C03	Skalkaho Summit	7260	4/27	82	38.4	29.0	26.7*
13C02	Slide Rock Mountain	7100	4/28	50	22.3	21.8	14.7*
12C01	Stemple Pass	6600	4/27	43	14.2	14.2	9.8
13C07	Storm Lake	7780	4/29	49	20.8	16.8	17.0*
12C02	Ten Mile Lower	6600	4/28	20	6.8	9.1	4.1
12C03	Ten Mile Middle	6800	4/28	41	15.0	14.5	9.9
12C04	Ten Mile Upper	8000	4/28	53	21.0	19.0	14.2

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13C15M	Georgetown Lake	6450	48	9.0	4/29	5.1	4.5	-
13C03M	Skalkaho Summit	7260	48	10.8	4/27	9.7	-	-
12C08M	Stemple Pass	6350	48	5.9	4/29	5.3	5.6	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED IV

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	FLINT CREEK					
3301	Boulder Creek (below)(13)	May-Sept	80.0	125	81.9	64.1
	MIDDLE FORK ROCK CREEK					
3320	Philipsburg	May-Sept	96.0	130	84.4	73.6
	BLACKFOOT RIVER					
3400	Bonner (near)	May-Sept	1190	130	1043	914
	CLARK FORK RIVER					
3404	Milltown (above)(14)	May-Sept	900	131	917	686

(13) Sum, Flint Creek at Maxville and Boulder Creek at Maxville.
(14) Difference in observed flow, Clark Fork above Missoula and Blackfoot near Bonner.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3250	Georgetown Lake	31.0	22.0	25.5	21.2

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK

BITTERROOT RIVER BASIN

MONTANA

as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

The outlook for irrigation water supplies for this spring and summer continues to be excellent. Streamflow is expected to hold up well throughout the summer months.

High elevation snow contains a near record amount of water and is more dense than is usual for this time of year. Om most snow courses, slightly more than two inches of snow contains one inch of water. Presently the snow pack averages about four percent less than a year ago and is 24 percent above average.

Runoff during April was 30 to 40 percent above average.

Streamflow for the next five months is forecast to average about 28 percent above average. Spring runoff is not expected to cause much damage this spring unless warm heavy rains occur during the main snow melt period.

Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

BITTERROOT RIVER BASIN

SNOW SURVEY DATA

WATERSHED V

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13C16	Ambrose	6480	4/28	38	15.4	16.5	11.0*
13D02	Gibbons Pass	7100	4/30	61	29.2	26.7	23.1
14C05	Lolo Pass	5230	4/27	74	34.8	40.8	31.8*
14C07	Lost Horse	5940	4/27	82	37.3	43.6	34.1*
14D02	Nez Perce Camp	5580	4/26	36	15.7	20.0	9.7
14D01	Nez Perce Pass	6570	4/26	45	19.8	22.6	13.3
13D22	Saddle Mountain	7940	4/30	71	33.3	-	-
13C03	Skalkaho Summit	7259	4/27	82	38.4	29.0	26.7*
14C08	Twin Lakes	6510	4/27	108	52.2	54.9	46.6*

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13D18M	Gibbons Pass	7100	48	7.1	4/30	7.9	6.1	-
14C05M	Lolo Pass	5250	48	10.6	4/27	9.4	5.5	-
13C03M	Skalkaho Summit	7260	48	10.8	4/27	9.7	-	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED V

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	WEST FORK BITTERROOT RIVER					
3425	Conner (near)(15)	May-Sept	200	127	233	157
	BITTERROOT RIVER					
3440	Darby (near)	May-Sept	656	127	695	518
3528	Missoula (at)(16)	May-Sept	1765	128	1655	1384
	BLODGETT CREEK					
3475	Corvallis (near)	May-Sept	51.0	128		39.9

(15) Adjusted for storage in Painted Rocks Reservoir.
(16) Difference in observed flow, Clark Fork above and below Missoula.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3420	Painted Rocks	31.7	24.5	25.4	22.0
3445	Como	34.9		8.1	17.9

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK
MARIAS, TETON and SUN RIVER BASINS
MONTANA
as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

The outlook for irrigation water supplies for the spring and summer continues to be excellent. Streamflow is expected to hold up well throughout the summer months.

The high elevation snow pack contains more water than it did a year ago, while lower elevations have less. Presently the snow pack averages about the same as last year and is 13 percent above average. The high elevation snow is very dense for this time of year. On most snow courses, two inches of snow contains nearly one inch of water.

Runoff during April was a little below average on the Sun River, and about 30 percent above average on the Marias River.

Streamflow for the next five months is forecast to be 10 to 20 percent above average. Flow in the Missouri River is forecast to be about 30 percent above average. Spring runoff is not expected to cause much damage unless warm heavy rains occur during the main snow melt period.

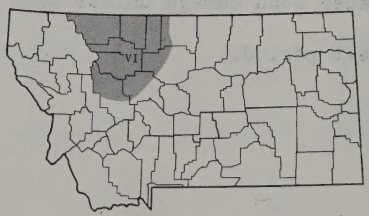
Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

"The Conservation of Water begins with the Snow Survey"

MARIAS, TETON and SUN RIVER BASINS

LEGEND

- Snow Survey Course
- Soil Moisture Station
- Snow Course and Soil Moisture Station
- Aerial Marker at Snow Course
- Stream Gaging Station
- Drainage
- S.W.C.D. Boundary
- Watershed Boundary
- Highway
- Town
- County Boundary
- State Boundary



WATERSHED LOCATION

SNOW SURVEY DATA

WATERSHED VI

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13A15	Badger Pass	6900	5/3	106	50.0	46.4	-
13A11	Beaver Lake	5900	5/3	68	32.1	30.9	-
12B06	Cabin Creek	5200	5/3	0	0.0	0.0	-
12B09	Five-Bull	5700	4/27	24	9.0	6.6	-
12A01	Freight Creek	6000	4/26	52	23.6	19.6	-
12B07	Goat Mountain	7000	4/30	42	16.0	12.6	10.3*
13A03	Iceberg Lake No. 3	5600	5/4	69	34.8	39.4	29.6
13A14	Josephine Lower No. 9	4900	5/3	46	19.6	19.3	17.9*
13A05	Marias Pass	5250	4/27	65	28.0	16.6	18.0
13A16	Mineral Creek	4000	5/1	39	16.7	21.0	-
13A07	Mount Allen No. 7	5700	5/3	96	45.6	50.8	49.2
13A06	Piegan Pass No. 6	5500	5/3	86	43.3	45.2	41.3
13A08	Ptarmigan No. 8	5800	5/4	92	46.8	46.6	40.3
12B01	West Fork	6000	4/26	52	23.2	18.3	-
12B04	Wrong Creek	5700	5/3	28	14.1	17.4	-
12B03	Wrong Ridge	6800	5/3	59	30.9	25.6	-

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A05M	Marias Pass	5250	54	6.5	4/30	6.4	5.4	6.0

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED VI

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	SUN RIVER					
0786	Gibson Dam (at)(10)	May-Sept	700	122	721	573
	TWO MEDICINE CREEK					
0920	Browning (near)(20)	May-Sept	290	120	293	241
	BADGER CREEK					
0925	Browning (near)	May-Sept	152	115	184	132
	CUT BANK CREEK					
0990	Cut Bank (at)	May-Sept	134	111	136	121
	MARIAS RIVER					
0995	Shelby (near)(9)	May-Sept	657	116	783	564
	MISSOURI RIVER					
0908	Fort Benton (at)(5)	May-Sept	3740	130	4520	2861

(5) Adjusted for storage in Canyon Ferry Reservoir.
(9) Adjusted for storage in Two Medicine, Four Horns, Lake Frances and Swift Reservoirs.
(10) Adjusted for storage in Gibson Reservoir and diversions.
(20) Adjusted for storage in Two Medicine Reservoir and diversions into Two Medicine Canal.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0795	Gibson	105.0	58.8	22.1	65.7
0805	Pishkun	32.0	21.1	17.0	23.5
0820	Willow Creek	32.3	19.5	21.5	22.5
0940	Swift	30.0	-	14.1	26.7
0955	Lake Frances	112.0		37.2	95.8
1013	Tiber	1313.0	815.5	632.9	656.3

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK

MISSOURI RIVER (MAIN STEM) BASIN

MONTANA

as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

The outlook for irrigation water supplies for this spring and summer continues very good for streams tributary to the Missouri River. Streamflow from the higher elevation headwaters should hold up well throughout the summer months. Streamflow from lower elevation watersheds will be near or possibly below average during late summer. Presently the snow pack averages about 7 percent less than a year ago and 42 percent more than average.

New high elevation snow courses indicate the snow in higher elevations is above that measured a year ago.

Streamflow during the next five months is forecast to be about 20 to 25 percent above average from streams on the west side of the Missouri River. Streams on the east side should produce 25 to 35 percent above average runoff. Streamflow in the Missouri River should be about 30 percent above average.

Spring runoff is not expected to cause much damage unless warm heavy rains occur during the main snow melt period.

Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

MISSOURI RIVER (MAIN STEM) BASIN

SNOW SURVEY DATA

WATERSHED VII

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
11C01	Boulder Mountain	7950	4/27	64	23.4	-	-
12C05	Chessman Reservoir	6200	4/28	8	2.2	7.4	2.9
10C07	Elk Peak	8000	4/28	67	26.8	21.2	-
10C02	Grasshopper	7000	4/28	21	7.4	8.6	-
10C01	Kings Hill	7500	4/28	52	18.4	18.8	13.8
10C06	Spur Park	8000	4/29	74	29.7	27.2	-
12C01	Stemple Pass	6600	4/27	43	14.2	14.2	9.8
12C02	Ten Mile Lower	6600	4/28	20	6.8	9.1	4.1
12C03	Ten Mile Middle	6800	4/28	41	15.0	14.5	9.9
12C04	Ten Mile Upper	8000	4/28	53	21.0	19.0	14.2

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10C01M	Kings Hill	7420	48	11.8	4/29	7.8	8.2	-
12C08M	Stemple Pass	6350	48	5.9	4/29	5.3	5.6	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED VII

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MISSOURI RIVER					
0545	Toston (at)(3)	May-Sept	2400	132	2433	1816
0908	Fort Benton (at)(5)	May-Sept	3740	130	4520	2861
	PRICKLY PEAR CREEK					
0615	Clancy (near)	May-Sept	23.0	121	33.3	19.0
	SUN RIVER					
0786	Gibson Dam (at)(10)	May-Sept	700	122	721	573

(3) Adjusted for storage in Hebgen and Ennis Lakes.
(5) Adjusted for storage in Canyon Ferry Reservoir.
(10) Adjusted for storage in Gibson Reservoir and diversions.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0585	Canyon Ferry	2043.0	1589.0	1741.0	1577.4
0645	Lake Helena	10.4	9.2	10.9	6.6
0650	Hauser Lk. + Lk. Helena	61.9	58.4	63.0	50.1
0660	Holter Lake	81.9	69.9	66.2	61.8
0750	Smith River	10.7	11.4	9.0	8.3

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK
JEFFERSON RIVER and TRIBUTARY BASINS
MONTANA
as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE
Data included in this report were obtained in cooperation with other Federal, State and private organizations

The irrigation water supply outlook continues very good to excellent. Streamflow is expected to hold up well throughout the summer months. Snow covering the higher elevations of the Beaverhead drainage contains about 40 percent more water than a year ago and 76 percent more water than the 1948-62 average. In the Big Hole-Boulder drainages it is slightly greater than a year ago and 37 percent above average. Over the entire Jefferson headwaters, snow water content is 50 percent above average and 14 percent greater than on May 1 last year.

Runoff during April was above average. Streamflow for the next five months is forecast to be 45 to 50 percent above average on the headwaters of the Beaverhead, about 30 percent above average on the Big Hole, and 20 percent above average on the Boulder.

Spring runoff is not expected to cause much damage unless warm heavy rains occur during the main snow melt period. Clark Canyon Reservoir will be able to retain considerable streamflow from the Red Rock and Horse Prairie tributaries should high flows occur.

Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

"The Conservation of Water begins with the Snow Survey"

JEFFERSON RIVER and TRIBUTARY BASINS

SNOW SURVEY DATA

WATERSHED VIII

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13D20	Abundance Lake	8800	4/27	77	32.2	21.4	-
12C07	Berry Meadow	7300	4/29	24	9.1	9.4	-
13D10	Bloody Dick	7600	4/28	37	15.2	12.3	-
11D07	Call Road	8050	4/27	45	15.9	14.2	-
12D04	Carter Creek	7400				-	-
13C05	Chessman Reservoir	6200	4/28	8	2.2	7.4	2.9
11D08	Clover Meadow	8600	4/27	60	24.0	19.8	-
11D06	Crockett Lake	8400	4/27	44	15.5	13.3	-
13E22	Dad Creek Lake	8400	5/4	57	23.2	-	-
13D19	Darkhorse Lake	8600	4/27	97	41.0	27.7	-
12E07	Divide	7900	4/27	38	14.7	12.0	-
13D15	Elk Horn Springs	7800	4/29	38	15.1	9.6	8.4*
13D21	Foolhen	8280	4/27	67	27.3	18.8	-
11D12	Four Mile	6900	4/27	28	10.6	-	-
13D02	Gibbons Pass	7100	4/30	61	29.2	26.7	23.1
13D09	Gold Stone	8100	4/28	56	22.7	16.8	-
13D08	Jahnke Creek	7340	4/28	24	10.0	8.6	-
11E04	Lakeview Canyon	6930	4/29	44	19.2	12.1	9.5*
11E03	Lakeview Ridge	7400	4/29	38	16.7	10.1	7.3*
11D10	Lower Twin	7900	4/27	76	31.2	-	-
12E06	Notch	8500	4/27	58	21.2	16.9	-
12D01	Pipestone Pass	7200	4/30	14	4.9	6.7	4.4*
13C07	Storm Lake	7780	4/29	49	20.8	16.8	17.0*
12C02	Ten Mile Lower	6600	4/28	20	6.8	9.1	4.1
12C03	Ten Mile Middle	6800	4/28	41	15.0	14.5	9.9
12C04	Ten Mile Upper	8000	4/28	53	21.0	19.0	14.2
12E01	White Pine Ridge	8850	4/27	23	7.9	8.1	-

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13D18M	Gibbons Pass	7100	48	7.1	4/30	7.9	6.1	-
11E13M	Lakeview	6700	48	15.3			14.8	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED VIII

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	RED ROCK RIVER					
0110	Kennedy Ranch (at)	May-Sept	73.7	148	72.6	49.8
0125	Monida (near)(1)	May-Sept	80.0	146	95.4	54.9
	BIG HOLE RIVER					
0255	Melrose (near)	May-Sept	831	133	788	625
	BOULDER RIVER					
0330	Boulder (near)	May-Sept	80.6	122	101	66.4
	JEFFERSON RIVER					
0345	Sappington (at)	May-Sept	1120	136	1187	824

(1) Adjusted for storage in Lima Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0120	Lima	84.0	77.3	28.8	50.0
0153	Clark Canyon	225.6	108.5	-	-
0205	Ruby	38.8		-	31.7

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK

MADISON and GALLATIN RIVER BASINS

MONTANA

as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

The irrigation water supply outlook continues very good to excellent. Streamflow is expected to hold up well through the summer months. The snow pack in the higher elevations contains a record or near record amount of water. The May 1 measurement at Canyon Snow Course in Yellowstone National Park exceeded the previous high by about four inches. Records began in 1937 at this course. Devil's Slide Snow Course, where measurements began in 1935, the May 1 water content is about one-half inch higher than any previous measurement.

Presently, snow cover in the Madison headwaters averages 23 percent greater than last year and 85 percent above average. In the Gallatin, snow cover is 12 percent greater than a year ago and 47 percent above average.

Runoff during April, generally near average in the Madison and Gallatin Rivers, is slightly below average from Hyalite Creek and above average from Bridger Creek. Streamflow during the next five months is forecast to average 20 to 40 percent above the 15-year average. Other streams in the area with high elevation headwaters will produce above average runoff. Streams with low elevation headwaters can be expected to produce only near average flows.

Spring runoff is not expected to cause much damage unless warm heavy rains occur during the main snow melt period.

For those who live near river channels susceptible to flooding, it might be well to remember that high water does not normally occur until some time <u>after</u> the mountains visible from the valley appear to have lost their snow cover.

Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

MADISON and GALLATIN RIVER BASINS

SNOW SURVEY DATA

WATERSHED IX

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
10D14	Arch Falls	7350	5/1	44	16.8	15.5	-
11D09	Bear Basin	8150	4/30	64	27.9	25.2	-
11E09	Big Springs	6500	4/29	42	21.0	18.7	-
10D15	Bridger Bowl	7250	4/29	77	35.2	-	-
11D07	Call Road	8050	4/27	45	15.9	14.2	-
10E03	Canyon	7750	4/30	53	24.7	16.0	13.5*
11D08	Clover Meadow	8600	4/27	60	24.0	19.8	-
11D06	Crockett Lake	8400	4/27	44	15.5	13.3	-
10D04	Devil's Slide	8100	5/1	77	32.0	27.0	24.9
11D12	Four Mile	6900	4/27	28	10.6	-	-
11E05	Hebgen Dam	6550	4/27	24	10.8	10.3	4.8
10D03	Hood Meadow	6600	5/1	27	10.0	12.1	6.6
11E10	Island Park	6315	4/29	27	11.9	10.1	-
11D10	Little Park	7400	4/30	50	19.0	19.4	-
11D11	Lower Twin	7900	4/27	76	31.2	-	-
10E02	Norris Basin	7500	5/3	24	10.1	13.2	5.5*
11E21	Potomageton Park	7150	4/30	34	17.4	-	-
10D10	Sacajawea	6550	4/29	40	17.2	17.0	10.8*
11E20	Sentinel Creek	8300	4/30	79	37.2	-	-
11E06	Twenty-One Mile	7150	4/28	55	24.9	18.6	14.9
11E08	Valley View	6500	4/29	39	18.6	16.1	-
11E07	West Yellowstone	6700	4/28	27	11.5	8.3	5.6

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10D11M	Battle Ridge	6020	48	17.6	4/29	16.6	14.3	-
11D02M	College Site	4856	54	14.5	4/30	13.2	12.5	12.1
10D04M	Red Bluff	4800	40	4.7	4/30	2.6	3.5	-
11E06M	Twenty-One Mile	7150	48	8.8	4/28	3.6	3.6	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED IX

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MADISON RIVER					
0375	West Yellowstone (near)	May-Sept	215	120	190	179
0385	Grayling (near)(2)	May-Sept	447	123	426	364
0410	McAllister (near)(3)	May-Sept	780	125	784	623
	GALLATIN RIVER					
0435	Gateway (near)	May-Sept	536	128	527	418
	BRIDGER CREEK					
0485	Bozeman (near)	May-Sept	21.5	130	21.8	16.5
	HYALITE CREEK					
0500	Bozeman (near)(4)	May-Sept	43.5	133	43.0	32.6
	GALLATIN RIVER					
0525	Logan (at)	May-Sept	567	142	568	400
	MISSOURI RIVER					
0545	Toston (at)(3)	May-Sept	2400	132	2433	1816

(2) Adjusted for storage in Hebgen Lake.
(3) Adjusted for storage in Hebgen and Ennis Lakes.
(4) Adjusted for storage in Middle Creek Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0380	Hebgen Lake	384.8	198.8	224.6	174.8
0405	Ennis Lake	41.0	25.0	38.6	34.9
0495	Middle Creek	8.0	4.1	5.0	4.6

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK
JUDITH and MUSSELSHELL RIVER BASINS
MONTANA

as of
MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE
Data included in this report were obtained in cooperation with other Federal, State and private organizations

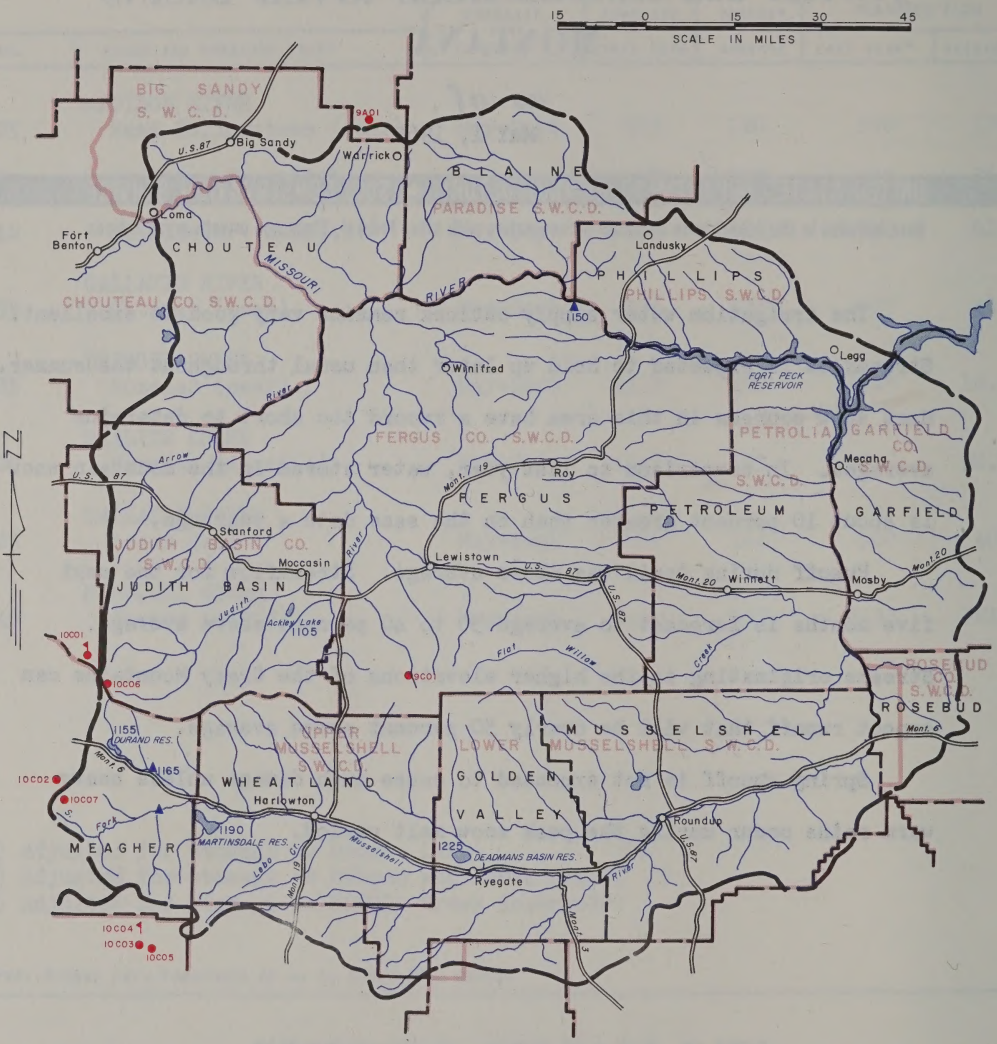
The irrigation water supply outlook remains very good to excellent. Streamflow is expected to hold up later than usual throughout the summer. Most snow courses in this area have a record too short to determine averages. In comparison to last year, water stored in the mountain snow is about 10 percent greater than on the same date a year ago.

Runoff during April was above average. Streamflow for the next five months is forecast to average 30 to 40 percent above average. Streams originating in the higher elevations of the Crazy Mountains can expect runoff that will be nearly 50 percent above average.

Spring runoff is not expected to cause much damage unless heavy warm rains occur during the peak snow melt period.

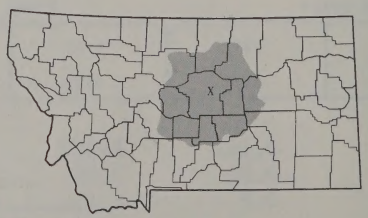
Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

JUDITH and MUSSELSHELL RIVER BASINS



LEGEND

- Snow Survey Course
- Soil Moisture Station
- Snow Course and Soil Moisture Station
- Aerial Marker at Snow Course
- Stream Gaging Station
- Drainage
- S.W.C.D. Boundary
- Watershed Boundary
- Highway
- Town
- County Boundary
- State Boundary



WATERSHED LOCATION

SNOW SURVEY DATA

WATERSHED X

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
10C05	Bald Ridge	7500	4/28	46	18.0	-	-
10C07	Elk Peak	8000	4/28	67	26.8	21.2	-
10C02	Grasshopper	7000	4/28	21	7.4	8.6	-
10C01	Kings Hill	7500	4/28	52	18.4	18.8	13.8
10C03	Porcupine R. S.	6500	4/28	33	11.5	-	-
10C08	South Fork Shields	8100	4/28	86	36.4	-	-
10C06	Spur Park	8000	4/29	74	29.7	27.2	-

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10C01M	Kings Hill	7420	48	11.8	4/29	7.8	8.2	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED X

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	SOUTH FORK MUSSELSHELL R.					
1185	Martinsdale (above)	May-Sept	58.0	136	56.4	42.8
	MISSOURI RIVER					
1150	Zortman (near)(6)	May-Sept	5000	129	6296	3885

(6) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
1105	Ackley Lake	5.8		2.8	3.9
1165	Durand	7.0	7.0	5.6	5.9
1190	Martinsdale	23.1	10.6	8.1	10.6
1225	Deadman's Basin	72.2	59.2	59.2	45.1

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK
UPPER YELLOWSTONE RIVER BASIN
MONTANA

as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

The outlook for irrigation and domestic water supplies remains excellent. Streamflow is expected to hold up well throughout the summer months. The higher elevation snow pack contains a near record amount of water. The snow pack averages 17 percent greater than on this same date a year ago, and is 45 percent above the 1948-62 average.

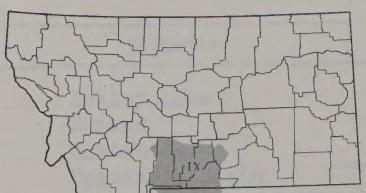
Runoff during April was near average from the headwater streams and above average from the valley streams. Streamflow for the next five months is forecast to average 20 to 35 percent above average for streams originating in the Absarokee and Beartooth areas. Streamflow from the Crazy Mountain drainages is forecast to produce 40 to 50 percent above average runoff.

Spring runoff is not expected to cause much damage unless heavy warm rains occur during the main snow melt period. The heavy snow accumulation that exists at the higher elevations is not a great flood threat. High elevation runoff can add to the peak flows but is normally not a major factor.

Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

"The Conservation of Water begins with the Snow Survey"

UPPER YELLOWSTONE RIVER BASIN



WATERSHED LOCATION

LEGEND

- Snow Survey Course
- Soil Moisture Station
- Snow Course and Soil Moisture Station
- Aerial Marker at Snow Course
- Stream Gaging Station
- Drainage
- S.W.C.D. Boundary
- Watershed Boundary
- Highway
- Town
- County Boundary
- State Boundary

WATERSHED XI

SNOW SURVEY DATA

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
10C05	Bald Ridge	7500	4/28	46	18.0	-	-
10D15	Bridger Bowl	7250	4/29	77	35.2	-	-
9D01	Camp Senia	7890	5/3	33	10.8	15.0	9.3*
10E03	Canyon	7750	4/30	53	24.7	16.0	13.5*
10D04	Devil's Slide	8100	5/1	77	32.0	27.0	24.9
10E06	East Entrance	7000	5/2	11	2.7	4.7	3.6*
9D05	Grizzly Peak	8400	4/29	68	23.8	24.8	-
10D06	Independence	8000	4/26	64	27.0	18.8	17.7*
10E04	Lake Camp	7850	4/29	36	13.4	7.0	7.2*
9E01	Lodgepole	8200	4/29	38	12.1	11.3	10.7*
10E01	Lupine Creek	7300	5/3	24	8.2	8.2	7.7*
10D12	Monument Peak	9000	4/26	94	37.3	29.6	26.4*
10E02	Norris Basin	7500	5/3	24	10.1	13.2	5.5*
10D07	Northeast Entrance	7400	5/1	24	10.2	8.2	6.2
10C03	Porcupine R. S.	6500	4/28	33	11.5	-	-
10D10	Sacajawea	6550	4/29	40	17.2	17.0	10.8*
10C08	South Fork Shields	8100	4/28	86	36.4	-	-
10E05	Sylvan Pass	7100	5/1	40	15.2	11.1	10.6*
9D04	Timberline Creek	8850	5/	65	25.2	23.8	16.7*

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10D11M	Battle Ridge	6020	48	17.6	4/29	16.6	14.3	-
10D07M	Northeast Entrance	7350	48	9.4	4/30	7.4	8.2	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED XI

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	YELLOWSTONE RIVER					
1915	Corwin Springs (at)	May-Sept	2,180	122	2,063	1,792
1925	Livingston (near)	May-Sept	2,470	122	2,308	2,019
2145	Billings (at)	May-Sept	4,750	129	4,198	3,675
3090	Miles City (at)(12)	May-Sept	7,000	132		5,307
3295	Sidney (near)(12)	May-Sept	7,100	135		5,245
	SHIELDS RIVER					
1935	Clyde Park (at)	May-Sept	122	149	124	82.1
	BOULDER RIVER					
2000	Big Timber (at)	May-Sept	447	135	366	330
	STILLWATER RIVER					
2050	Absarokee (near)(11)	May-Sept	725	136	537	531
	CLARKS FORK RIVER					
2075	Chance (at)	May-Sept	673	120	587	560
2085	Edgar (at)	May-Sept	707	122	621	578
	ROCK CREEK					
2095	Red Lodge (near)	May-Sept	130	129	94.4	101

(11) Adjusted for storage in Mystic Lake.
(12) Adjusted for storage in Buffalo Bill and Boysen Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
2040	Mystic Lake	20.8	1.6	3.5	2.8
2120	Cooney	27.5	11.2	23.0	15.0

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

WATER SUPPLY OUTLOOK

MILK RIVER BASIN

MONTANA

as of

MAY 1, 1965

UNITED STATES DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Data included in this report were obtained in cooperation with other Federal, State and private organizations

The outlook for irrigation water supplies is very good to excellent. Reservoir-stored water is above average and the above average snow pack in the headwaters of the St. Mary River should provide adequate diversion into the Milk River.

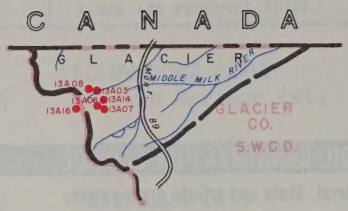
Runoff above Fresno Reservoir was near average during March and about two and one-half times average in April.

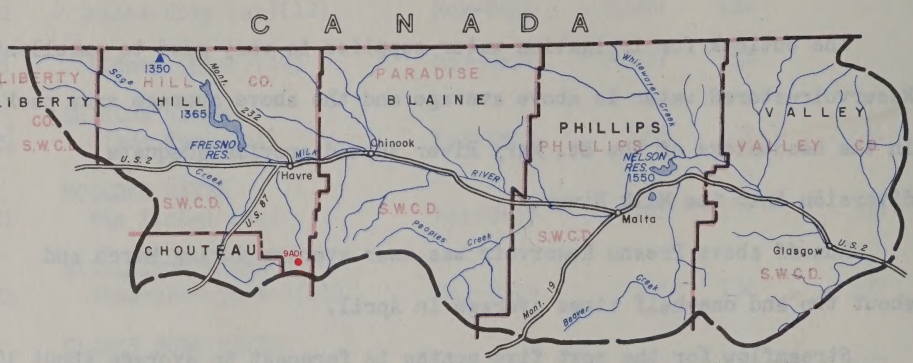
Streamflow for the next five months is forecast to average about 10 percent below average.

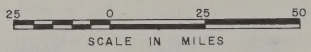
Report prepared by
P.E. FARNES AND S.E. COOK
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE
BOX 855, BOZEMAN, MONTANA 59715

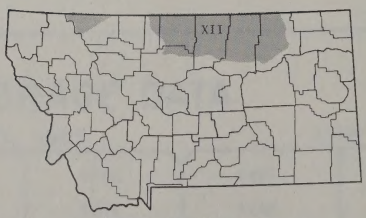
"The Conservation of Water begins with the Snow Survey"

MILK RIVER BASIN









WATERSHED LOCATION

LEGEND

- Snow Survey Course
- Soil Moisture Station
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- S. W. C. D. Boundary
- Watershed Boundary
- Highway
- Town
- County Boundary
- State Boundary

SNOW SURVEY DATA

WATERSHED XII

AS OF MAY 1, 1965

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13A03	Iceberg Lake No. 3	5600	5/4	69	34.8	39.4	29.6
13A14	Josephine Lower No. 9	4900	5/3	46	19.6	19.3	17.9*
13A05	Marias Pass	5250	4/27	65	28.0	16.6	18.0
13A16	Mineral Creek	4000	5/1	39	16.7	21.0	-
13A07	Mount Allen No. 7	5700	5/3	96	45.6	50.8	49.2
13A06	Piegan Pass No. 6	5500	5/3	86	43.3	45.2	41.3
13A08	Ptarmigan No. 8	5800	5/4	92	46.8	46.6	40.3

SOIL MOISTURE DATA

AS OF MAY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A05M	Marias Pass	5250	54	6.5	4/30	6.4	5.4	6.0

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY FORECASTS

WATERSHED XII

AS OF MAY 1, 1965

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MILK RIVER					
1350	Eastern Crossing (at)	May-Sept	185	90	249	206

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF APRIL 30, 1965

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
1365	Fresno	127.2	134.9	58.4	108.1
1550	Nelson	66.8	40.3	26.9	39.8

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).